

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A multi-component liquid filter, comprising:

a first filter element defining a surface having a finite surface contact area, said first filter element being configured to selectively remove a first contaminant from a liquid when contacted therewith, wherein said first filter element contains a charge-modified material; and

a second filter element disposed in fluid communication with said first filter element, said second filter element having a pleated surface, said pleated surface having a surface contact area greater than said surface contact area of said first filter element, wherein said pleated surface comprises pleats having an average pitch of from about 0.0625 to about 5 inches, said second filter element being configured to selectively remove a second contaminant from a liquid when contacted therewith, wherein said second filter element contains a particulate laminate having two or more layers of filter media, wherein said second filter element has a filter volume of less than about 6 cubic inches.

2. (Original) A multi-component liquid filter as defined in claim 1, wherein said surface of said first filter element is a generally planar surface.

3-4. (Cancelled)

5. (Previously Presented) A multi-component liquid filter as defined in claim 1, wherein said pleats having an average pitch from about 0.125 to about 1 inch.

6. (Previously Presented) A multi-component liquid filter as defined in claim 1, wherein said pleats are disposed longitudinally in a direction transverse to fluid flow through said second filter element.

7. (Original) A multi-component liquid filter as defined in claim 1, wherein both of said filter elements are contained within a chamber.

8. (Previously Presented) A multi-component liquid filter as defined in claim 7, wherein said first and said second filter elements are generally cylindrical, said generally cylindrical filter elements being arranged in fluid communication within said chamber coaxial with respect to a longitudinal centerline of said chamber.

9. (Original) A multi-component liquid filter as defined in claim 8, wherein one of said first and second filter elements has inner and outer circumferential surfaces defined by a generally constant radius therearound so as to define generally continuous planar circumferential filtering surfaces for a liquid passing radially through said filter element, the other of said respective filter elements having inner and outer circumferential surfaces defined by surface contours such that said circumferential surfaces have a non-constant radius therearound so as to define a generally discontinuous non-planar circumferential filtering surface with a greater effective filtering surface area compared to a continuous planar filtering surface for a liquid passing radially through said other filter element, wherein liquid flows radially through said filter elements within said chamber such that different contaminants are removed by said respective filter elements prior to the liquid flowing from said chamber.

10. (Original) A multi-component liquid filter as defined in claim 9, wherein said filter element with said constant radius circumferential surfaces is disposed concentric within said other filter element having said surface contours.

11. (Original) A multi-component liquid filter as defined in claim 9, wherein said other filter element with said surface contours is disposed concentric within said filter element with said constant radius circumferential surfaces.

12. (Previously Presented) A multi-component liquid filter as defined in claim 1, wherein at least one of said filter elements comprises a material selected from the group consisting of microfiber glass, a nonwoven web, a bed of granular material, a cellulosic material, activated carbon, airlaid composites, and combinations thereof.

13. (Previously Presented) A multi-component liquid filter as defined in claim 1, wherein said laminate has a layer containing activated carbon laminated to at least one other layer containing a nonwoven web.

14. (Original) A multi-component liquid filter as defined in claim 1, wherein said surface contact area of said second filter element is at least about 10% greater than said surface contact area of said first filter element.

15. (Original) A multi-component liquid filter as defined in claim 1, wherein said surface contact area of said second filter element is about 15% to about 600% greater than said surface contact area of said first filter element.

16-22. (Cancelled)

23. (Currently Amended) A multi-component liquid filter device, comprising:
a chamber;
a first generally cylindrical filter element, and a second generally cylindrical filter

element, said filter elements arranged in fluid communication within said chamber coaxial with respect to a longitudinal centerline of said chamber;

one of said first and second filter elements having inner and outer circumferential surfaces defined by a generally constant radius therearound so as to define generally continuous planar circumferential filtering surfaces for a liquid passing radially through said filter element, wherein said filter element with said constant radius circumferential surfaces contains a charge-modified material;

the other of said respective filter elements having inner and outer circumferential surfaces defined by surface contours such that said circumferential surfaces have a non-constant radius therearound so as to define a generally discontinuous non-planar circumferential filtering surface with a greater effective filtering surface area compared to a continuous planar filtering surface for a liquid passing radially through said other filter element, wherein said filter element having surface contours contains a particulate laminate having two or more layers of filter media, wherein said filter element with said circumferential surfaces defined by surface contours comprises pleats having an average pitch of from about 0.0625 inches to about 5 inches and has a filter volume of less than about 6 cubic inches; and

wherein liquid flows radially through said filter elements within said chamber such that different contaminants are removed by said respective filter elements prior to the liquid flowing from said chamber.

24-28. (Cancelled)

29. (Original) A filter device as defined in claim 23, wherein said filter element with said constant radius circumferential surfaces is disposed concentric within said other filter element having said surface contours.

30. (Original) A filter device as defined in claim 23, wherein said other filter element with said surface contours is disposed concentric within said filter element with said constant radius circumferential surfaces.

31. (Previously Presented) A filter device as defined in claim 23, wherein at least one of said filter elements comprises a material selected from the group consisting of microfiber glass, a nonwoven web, a bed of granular material, a cellulosic material, activated carbon, airlaid composites, and combinations thereof.

32. (Previously Presented) A filter device as defined in claim 23, wherein said laminate has a layer containing activated carbon laminated to at least one other layer containing a nonwoven web.

33. (Previously Presented) A multi-component liquid filter as defined in claim 13, wherein said nonwoven web is charge-modified.

34. (Previously Presented) A filter device as defined in claim 32, wherein said nonwoven web is charge-modified.

35. (Cancelled)

36. (New) A multi-component liquid filter as defined in claim 1, wherein said second filter element has a filter volume of less than about 1 cubic inch.

37. (New) A filter device as defined in claim 23, wherein said filter element with said circumferential surfaces defined by surface contours has a filter volume of less than about 1 cubic inch.

38. (New) A filter device as defined in claim 23, wherein said pleats have an average pitch of from about 0.125 to about 1 inch.